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Opting Out of Cervical Cancer Screening:

Physicians Who Do Not Perform Pap Tests

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Abstract

Background—Some primary care physicians choose not to provide cervical cancer screening.

Purpose—To investigate the characteristics and screening beliefs of family practitioners and internists who treat adult women in outpatient settings but perform no routine Pap tests.

Methods—A survey of U.S. primary care physicians (N = 892) was conducted and analyzed in 2012.

Results—Participants who performed no Pap tests during a typical month (17.2% of family practitioners and 44.3% of internists) generally reported that they referred patients to gynecologists for cervical cancer screening. The most significant predictor of Pap test non-provision was agreement that patients are best served by having Pap tests performed by gynecologists (AOR = 8.80, 95% CI = 5.58, 13.88, $p < 0.001$).

Conclusions—The perception that patients benefit from cervical cancer screening administered by gynecologists may deter screening in primary care settings, resulting in missed opportunities to offer screening to women who are never or rarely screened.

Introduction

In the U.S., both gynecologists and primary care providers perform cervical cancer screening. Screening options currently recommended by the U.S. Preventive Services Task Force include the Pap test every 3 years for women aged 21–65 years and the Pap test administered in conjunction with the human papillomavirus test every 5 years for women aged 30–65 years.[1]

As frontline medical workers, primary care providers may have opportunities to offer screening to women who are never or rarely screened—the population in which the majority of invasive cervical malignancies occur.[2–6] In addition, wait times for gynecologist visits vary widely within and between metropolitan areas,[7] and primary care providers may offer urban women more timely access to screening in some cases. In many rural communities,

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there are no gynecologists[8]; thus, primary care providers may be the only screening option available locally. Further, cervical cancer screening in primary care settings may support comprehensive care delivery—primary care physicians were found to address non-gynecologic medical problems during preventive gynecologic examinations more often than gynecologists.[9] This difference may be critical for patients whose well woman visit is their only contact with medical care for an extended period.

However, not all primary care providers perform cervical cancer screening. In a 2006–2007 national survey, 9% of family practitioners and internists reported performing no Pap tests.[10] This study investigated the characteristics and screening beliefs of primary care physicians who do not perform routine Pap tests.

Methods

The 2012 DocStyles survey was administered online in July by Porter Novelli (Washington DC). Participants were recruited from the Epocrates Honors Panel (>275,000 U.S. health professionals) and limited to those who practiced in the U.S., actively saw patients, and had practiced for at least 3 years. The survey included a variety of provider groups, but the analyses reported here were limited to primary care physicians.

An invitation to participate in the survey was emailed to 2,175 randomly selected internists and family practitioners, who matched the 2012 American Medical Association Masterfile estimates for age, gender, and region. Quota sampling11 was used to ensure adequate representation of all surveyed provider groups. The quota for primary care physicians was set at 1,000, but the final two participants responded simultaneously, resulting in a sample of 1,001. Respondents who did not treat adult female patients ($n = 3$) and those working in primarily inpatient care settings ($n = 106$) were excluded, which narrowed the sample to 892. No identifying information was included in the data set provided to investigators, and analyses were exempted from CDC IRB approval.

Measures included the number of Pap tests and bimanual pelvic examinations administered to asymptomatic, average-risk women during a typical month, as well as other physician and practice characteristics. Screening beliefs were assessed with three statements with agree–disagree–not sure response sets: (1) *the reimbursement for Pap tests is typically too low to cover the costs associated with providing them*; (2) *women prefer to receive Pap tests from female providers*; and (3) *patients are generally best served by having Pap tests performed by gynecologists*. These screening beliefs were identified in a preliminary qualitative study conducted by the CDC (CPC, unpublished observations, 2011).

Pairwise Pearson chi-square tests were performed to test the associations between Pap test non-provision and physician characteristics, practice characteristics, and screening beliefs (Table 1). Variables significantly associated ($p < 0.05$) with Pap test non-provision in the bivariate analyses were included in a forward conditional regression model predicting non-provision of Pap tests during a typical month. The data were analyzed in 2012 using SPSS Statistics, version 21.0 (IBM, Endicott NY).

Results

More than a quarter of participants (28.4%) reported that they administered no Pap tests to asymptomatic, average-risk women during a typical month, and an almost equal percentage (28.5%) reported providing no bimanual pelvic examinations to the same population of women during a typical month (results not shown). Among those who did not perform Pap tests, 13.5% reported that other providers in their offices performed Pap tests, and 80.4% reported that they routinely referred patients to gynecologists for cervical cancer screening (results not shown).

In the pairwise Pearson chi-square tests, ten variables were significantly associated with Pap test provision (Table 1). Six of these ten variables remained significant predictors in the multivariate model predicting non-provision of Pap tests during a typical month (Table 2). The largest AOR was associated with agreement that patients are best served by having Pap tests performed by gynecologists (AOR = 8.80, 95% CI = 5.58, 13.88, $p < 0.001$).

Discussion

The belief that patients benefit from cervical cancer screening administered by gynecologists may deter screening in primary care settings, resulting in missed opportunities to offer screening to women who are never or rarely screened. Further research is needed to understand the origins of this belief. It is possible that the time constraints of primary care visits make it difficult for physicians to administer Pap tests.[12] Another contributing factor may be the perceived complexity and evolving nature of guidelines for abnormal Pap test follow-up.[13] Initial screening by a gynecologist affords patients with immediate access to a specialist in the event of an abnormal test result.

The higher rate of Pap test non-provision among male physicians in the current study is consistent with prior research.[14,15] The association between practicing in a Metropolitan Statistical Area with a population >5 million and non-provision of Pap tests is likely related to the high concentration of gynecologists in these markets.[8] Similarly, the observed differences by geographic region may also be related to actual or perceived patient access to gynecologists. The difference in Pap test non-provision by specialty was muted in the multivariate model, suggesting that the striking association found in the bivariate analyses was somewhat attributable to underlying variables. Finally, the influence of uncertainty about the adequacy of Pap test reimbursement is logical, as physicians who have not performed Pap tests for some time may not have a sense of current reimbursement.

It is unknown whether women who have Pap tests administered by gynecologists experience different clinical outcomes than those screened by primary care physicians. Compared with gynecologists, primary care physicians have been found to more closely adhere to cervical cancer screening recommendations,[10,16] but their follow-up care of abnormal Pap test results was reported to be less consistent with guidelines.[17] However, Pap test administration by primary care physicians has been found to support comprehensive care delivery.[9]

Whether Pap test provision by U.S. primary care physicians is currently decreasing or increasing is also unknown. The survey results reported here should not be interpreted as

firm national estimates, as the use of quota sampling limits generalizability.[11] In any case, the rate of Pap test non-provision among physicians in the present survey was three times higher than the rate in the only comparison study[10] identified, which was conducted 6 years earlier (28.4% vs 9%).

Implementation of the Patient Protection and Affordable Care Act[18] is expected to remove financial barriers to preventive care services for millions of women.[19,20] Primary care physicians will be ideally positioned to offer cervical cancer screening to women who have not had regular care. To maximize this opportunity, efforts to understand and address the barriers to cervical cancer screening in primary care settings may be needed.

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References

1. U.S. Preventive Services Task Force. Screening for Cervical Cancer: Clinical Summary of U.S. Preventive Services Task Force Recommendation. 2012 AHRQ Publication No. 11-05156-EF-3 uspreventiveservicestaskforce.org/uspstf11/cervcancer/cervcancersum.htm.
2. Subramaniam A, Fauci JM, Schneider KE, et al. Invasive cervical cancer and screening: what are the rates of unscreened and underscreened women in the modern era? J Low Genit Tract Dis. 2011; 15(2):110–113. [PubMed: 21263352]
3. Sung HY, Kearney KA, Miller M, Kinney W, Sawaya GF, Hiatt RA. Papanicolaou smear history and diagnosis of invasive cervical carcinoma among members of a large prepaid health plan. Cancer. 2000; 88(10):2283–2289. [PubMed: 10820350]
4. Leyden WA, Manos MM, Geiger AM, et al. Cervical cancer in women with comprehensive health care access: attributable factors in the screening process. J Natl Cancer Inst. 2005; 97(9):675–683. [PubMed: 15870438]
5. Kinney W, Sung HY, Kearney KA, Miller M, Sawaya G, Hiatt RA. Missed opportunities for cervical cancer screening of HMO members developing invasive cervical cancer (ICC). Gynecol Oncol. 1998; 71(3):428–430. [PubMed: 9887244]
6. Janerich DT, Hadjimichael O, Schwartz PE, et al. The screening histories of women with invasive cervical cancer, Connecticut. Am J Public Health. 1995; 85(6):791–794. [PubMed: 7762711]
7. Merritt Hawkins & Associates. 2009 survey of physician appointment wait times. Irving TX: Meritt Hawkins & Associates; 2009. www.merritthawkins.com/pdf/mha2009waittimesurvey.pdf.
8. Rayburn WF, Klagholz JC, Murray-Krezan C, Dowell LE, Strunk AL. Distribution of American Congress of Obstetricians and Gynecologists fellows and junior fellows in practice in the U.S. Obstet Gynecol. 2012; 119(5):1017–1022. [PubMed: 22525913]
9. Cohen D, Coco A. Do physicians address other medical problems during preventive gynecologic visits? J Am Board Fam Med. 2014; 27(1):13–18. [PubMed: 24390881]
10. Yabroff KR, Saraiya M, Meissner HI, et al. Specialty differences in primary care physician reports of Papanicolaou test screening practices: a national survey, 2006 to 2007. Ann Intern Med. 2009; 151(9):602–611. [PubMed: 19884621]
11. Cumming RG. Is probability sampling always better? A comparison of results from a quota and a probability sample survey. Community Health Stud. 1990; 14(2):132–137. [PubMed: 2208977]

12. Stewart RA, Thistlethwaite J, Evans R. Pelvic examination of asymptomatic women: attitudes and clinical practice. Aust Fam Physician. 2008; 37(6):493–496. [PubMed: 18523709]
13. Sawaya GF. New guidelines—it's complicated. Obstet Gynecol. 2013; 121(4):703–704. [PubMed: 23635667]
14. Lurie N, Slater J, McGovern P, Ekstrum J, Quam L, Margolis K. Preventive care for women. Does the sex of the physician matter? N Engl J Med. 1993; 329(7):478–482. [PubMed: 8332153]
15. Ince-Cushman D, Correa JA, Shuldiner J, Segouin J. Association of primary care physician sex with cervical cancer and mammography screening. Can Fam Physician. 2013; 59(1):e11–e18. [PubMed: 23341674]
16. Almeida CM, Rodriguez MA, Skootsky S, Pregler J, Steers N, Wenger NS. Cervical cancer screening overuse and underuse: patient and physician factors. Am J Manag Care. 2013; 19(6): 482–489. [PubMed: 23844709]
17. Berkowitz Z, Saraiya M, Benard V, Yabroff KR. Common abnormal results of pap and human papillomavirus cotesting: what physicians are recommending for management. Obstet Gynecol. 2010; 116(6):1332–1340. [PubMed: 21099599]
18. U.S. Department of Health and Human Services. Read the Law. healthcare.gov/law/full.
19. Levy AR, Bruen BK, Ku L. Health care reform and women's insurance coverage for breast and cervical cancer screening. Prev Chronic Dis. 2012; 9:E159. cdc.gov/pcd/issues/2012/12_0069.htm. [PubMed: 23098646]
20. Gee RE. Preventive services for women under the Affordable Care Act. Obstet Gynecol. 2012; 120(1):12–14. [PubMed: 22914387]

Table 1

Characteristics and screening beliefs by Pap test provision, U.S., DocStyles Survey, 2012 (N = 892)

		Provision of Pap tests during a typical month		
	n	**Yes (%)**	**No (%)**	***p-value****
PHYSICIAN CHARACTERISTICS				
Specialty				
Family practitioner	524	82.8	17.2	**<0.001**
Internist	368	55.7	44.3	
Gender				
Male	634	66.2	33.8	**<0.001**
Female	258	84.9	15.1	
Race				
White	649	72.0	28.0	0.649
Asian	145	72.4	27.6	
Black	37	64.9	35.1	
Native American/Alaskan/Pacific Islander	6	83.3	16.7	
≥2 races	30	80.0	20.0	
Other	35	62.9	37.1	
Ethnicity				
Hispanic	43	74.4	25.6	0.678
Non-Hispanic	849	71.5	28.5	
Age (years)				
<40	221	71.9	28.1	0.675
40–49	312	70.8	29.2	
50–59	267	73.8	26.2	
≥60	92	67.4	32.6	
Years in practice				
<10	217	72.4	27.6	0.699
10–19	342	72.5	27.5	
20–29	260	71.5	28.5	
≥30	73	65.8	34.2	
PRACTICE CHARACTERISTICS				
Number of physicians in practice				
Solo practitioner	135	74.8	25.2	0.293
2–9 physicians	456	72.6	27.4	
10–19 physicians	122	64.8	35.2	
≥20 physicians	179	71.5	28.5	
Geographic region				
Northeast	246	57.7	42.3	**<0.001**

		Provision of Pap tests during a typical month		
	n	**Yes (%)**	**No (%)**	***p-value****
South	197	72.1	27.9	
Midwest	209	81.8	18.2	
West	240	76.7	23.3	
MSA with population >5 million				
Yes	250	56.8	43.2	**<0.001**
No	642	77.4	22.6	
MSA with population >3 million				
Yes	339	62.2	37.8	**<0.001**
No	553	77.4	22.6	
MSA with population >1 million				
Yes	476	65.1	34.9	**<0.001**
No	416	79.1	20.9	
Rural area[a]				
Yes	81	85.2	14.8	**0.005**
No	811	70.3	29.7	
Primarily upper middle class-affluent patient population				
Yes	384	68.2	31.8	0.050
No	508	74.2	25.8	
Primarily very poor-lower middle class patient population				
Yes	157	76.4	23.6	0.142
No	735	70.6	29.4	
SCREENING BELIEFS				
Patients are best served by having Pap tests performed by gynecologists				
Agree	174	29.9	70.1	**<0.001**
Disagree	635	87.4	12.6	
Not sure	83	38.6	61.4	
The reimbursement for Pap tests is typically too low to cover the costs associated with providing them				
Agree	208	69.2	30.8	**<0.001**
Disagree	344	88.4	11.6	
Not sure	340	56.2	43.8	
Women prefer to receive Pap tests from female providers				
Agree	562	75.1	24.9	**<0.001**
Disagree	212	75.0	25.0	
Not sure	118	49.2	50.8	

Note: Boldface indicates statistical significance, $p < 0.05$.

[a] Areas classified as outside of an MSA by the U.S. Office of Management and Budget

* Pearson chi-square asymptotic two-sided tests

MSA, Metropolitan Statistical Area

Table 2

Significant predictors of Pap test non-provision, multivariate logistic regression,[a] U.S., DocStyles Survey, 2012 (N = 892)

Predictive category	AOR (95% CI)	*p-value**	Reference category
PHYSICIAN CHARACTERISTICS			
Specialty			
Internist	1.93 (1.31, 2.84)	**0.001**	Family practitioner
Gender			
Male	3.19 (1.97, 5.15)	**<0.001**	Female
PRACTICE CHARACTERISTICS			
Geographic region			
Northeast	2.19 (1.27, 3.77)	**0.005**	Midwest
South	2.24 (1.25, 4.00)	**0.007**	
West	1.40 (0.79, 2.46)	0.248	
MSA with population >5 million			
Yes	2.54 (1.68, 3.84)	**<0.001**	No
SCREENING BELIEFS			
Patients are best served by having Pap tests performed by gynecologists			
Agree	8.80 (5.58, 13.88)	**<0.001**	Disagree
Not sure	6.56 (3.76, 11.46)	**<0.001**	
The reimbursement for Pap tests is typically too low to cover the costs associated with providing them			
Agree	1.53 (0.89, 2.60)	0.121	Disagree
Not sure	3.39 (2.10, 5.46)	**<0.001**	

Note: Table includes variables in the multivariate model with one or more significant categories. Boldface indicates statistical significance, $p < 0.05$.

[a]The model included the variables that were significantly associated with Pap test non-provision in unadjusted analyses: specialty, gender, geographic region, MSA with population >5 million, MSA with population >3 million, MSA with population >1 million, rural practice area, belief that patients are best served by having Pap test performed by gynecologists, belief that the reimbursement for Pap test is typically too low to cover the costs associated with providing them, and belief that women prefer to receive Pap tests from female providers.

*Forward conditional logistic regression

MSA, Metropolitan Statistical Area